

## ART. III.—THE DOSAGE OF ELECTRICITY.\*

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BY GEORGE M. BEARD, M. D.

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THE dose of ordinary remedies given internally is accurately determined by one factor, weight or measure.

The dose of an electrical application on the human body is a complex resultant of a number of different factors. The elements which constitute a dose in the application of electricity are as follows :

First—the strength of the current. Secondly—the length of the application. Thirdly—the locality of the application. Fourthly—the method of the application, including size and quality of the electrodes, and also whether the applications are made beneath the skin, on the skin, or on the mucous membranes.

A glance at these factors makes clear at once this general fact : that we have complex, and not simple elements to deal with in determining the dose of an electrical application. First of all, the strength of the current is a very difficult thing to estimate, when it is applied to the human body. When using the galvanic current, it is customary to specify the number of cells that are used ; but cells vary not only in regard to size, but in the quality of the fluid they contain, and in the condition of the metals, whether clean or otherwise, and also in the surface of the conducting wires. To say, therefore, that we have treated a person with so many cells, is to give very little information with regard to the dose of electricity we have given ; it is in fact, to give no information at all.

Then, again, the size of the electrodes, and the degree in which they are moistened, and the amount of pressure which is applied to them,—all these factors must be known if we would know just how much electricity, according to this law, passes through the patient.

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enable us to avoid sudden interruptions, and to gradually increase or diminish the current.

5. The therapeutical effects of electricity are very considerably, though not entirely, of a *reflex* character. This is true not only of general and central, but of many local applications. Hence, in part, the mistake of carrying the laws of electrotonus into electro-therapeutics.

6. The range of dosage of electricity is very wide, both in regard to strength and length of application. Although the sensitiveness of the patient is the best guide, yet in some cases currents that can scarcely be felt, and applications of but a moment's duration, are required; while in other cases quite painful currents, or applications prolonged for hours, may be useful.

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